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the way of trajectory and systems information. And once again, Dr. Joe Kerwin has brought over all the latest news, and we can read that up to you a little bit at a time if you don't go to sleep.

02 14 17 12	CDR	<u>What's he going to do, read out of the AMA Journal?</u>
02 14 17 20	CC	Roger.
02 14 17 23	CMP	Go ahead. We are all ears.
02 14 17 25	CC	Okay. Here is one: the previously scheduled 72-hour cease fire by the Viet Cong went into effect today, 17 hours before the allied truce was to begin.
02 14 17 57	CDR	You lost us on the numbers there. What was that again?
02 14 18 04	CC	The gist of it was that the VC went into a cease fire earlier than the truce that we had planned on, as a Christmas holiday type.
02 14 18 25	CDR	Roger. Good.
02 14 21 36	CDR	Houston, how do you read? Apollo 8.
02 14 21 38	CC	Loud and clear. Sorry to have stopped on you there. We are going over the summary of the systems data.
02 14 21 49	CDR	Okay.
02 14 31 19	CC	Apollo 8, Houston.
02 14 31 24	CDR	Go ahead, Houston. Apollo 8.

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02 14 31 26 CC Okay. I have a rundown on your systems here,
GNC status. Everything looks real --

02 14 31 38 CDR Just a minute.

02 14 31 42 CC Go ahead.

02 14 31 52 CDR I want to wait until the LMP gets on the head
set, Houston.

02 14 31 55 CC Roger.

02 14 33 11 CMP Okay, Houston, go ahead. EECOM's on the line.

02 14 33 19 CC Okay. We'll just start with ECCOM business,
then I'll give you a summary of your batteries;
battery A, we calculate 38.3 amp-hours, bat-
tery B --

02 14 33 36 CMP Stand by a second, Ken.

02 14 33 46 CDR Let me get my chart out.

02 14 33 49 CC Roger.

02 14 33 53 CDR Go ahead now.

02 14 33 55 CC Okay. Battery A 38.3, battery B 36.9, bat-
tery C, 38.5. That's looking pretty good.
It looks like we got all the things back in
that we took out, and we're running right
along prediction. We would like to get a
battery C voltage from you if you can just
reach over there and switch it.

02 14 34 28 CDR Roger. Thirty-seven volts, on battery C.

02 14 34 34 CC Roger. Thirty-seven volts, Okay. The pre-
dicted cryo quantities at SEP: on oxygen

tank 1 170, oxygen tank 2 170, hydrogen 1 9.5, and hydrogen 2 10.0. You essentially have single cryo tank capabilities all the way at full power now.

02 14 35 14

CDR

Fine.

02 14 35 17

CC

The secondary coolant loop really looked good. Looks like you had a nice tight radiator and everything else on there was working right along the performance curves. Your main oxygen regulators both filled at 104 psi during our check. Looking at the lunar orbit, expect to be doing a water boil of about 1 pound per hour, and this is just an approximation; there's quite a variety of estimates as to what the water boiling requirements may be, might go anywhere from boiling lots to not boiling at all. The next water dump will be coming up after TEI, so you don't have to worry about any of that until you get through. Communications predictions are looking good, possibly a little bit better than what we had hoped for, and looks like we're going to get high bit rate on OMNI's with our 210-foot dish at Goldstone. This will be working for us on the first couple of rev's, and then we'll be switching sights, so we'll go back

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to using OMNI's for high bit. The voice quality on DSE is good. Your fuel cells have been running above nominal for the entire flight, and they really look nice and stable. There's been some destratification --

02 14 37 04 LMP

... on normal voice, doesn't it?

02 14 37 11 CC

Okay. Looks like may not be able to hack the normal voice. On the cryo tanks, we've had quite a bit of destratification, particularly in the oxygen, and you notice this during the fan cycles and DELTA-V's, so we're going to be sure and we'll remind you again to stir up the oxygen prior to LOI. CMC is running along like clockwork. G&C tells us that the RCS quantities are looking good. You're using the same amount as predicted for your PTC and for your alignment. What we have in the way of 9 redline: we're going to tell you that you can use 30 percent per quad in lunar orbit. Now this is quite a bit of fuel to play with, and you can take 30 percent and subtract that from what you have to completion of LOI, and that will be a good number.

02 14 38 27 CC

On the SPS, the oxidizer and fuel feed line temperatures are 75 and holding steady. The

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service module RCS quad package temps are cycling and holding between 120 and 140, and looks like we're getting good normal heater operations. We plan to have you in a 60-mile circular orbit after LOI 2. And we should have some PAD's for you on the LOI burn at about 67 hours.

02 14 39 30 CDR

Roger. We got all that.

02 14 39 32 CC

Okay. We're still going through the tracking, and as you know, we're going to hold down on the water dumps and so forth during the last couple of hours in and out, sort of aid the tracking procedures. Everything's running along the line normally now. Do you have any other specific questions? We are looking for an angle on the moon. I guess that about summarizes the system. Everything looks GO right now.

02 14 40 06 CDR

Okay, Ken. Thank you. We just completed day 3 meal C, and now are going to break up and each take a rest period before LOI.

02 14 40 18 CC

Okay, real fine. Everybody wanted to ask if you wouldn't try and get some sack time here before we go in. It's going to be a big day.

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02 14 40 31 CDR Roger.

02 14 58 21 CC Apollo 8, Houston.

02 14 58 26 CDR Go ahead.

02 14 58 28 CC Finally found out where the moon is, and your present PTC attitude - if you happen to look out the right window as you go by - roll attitude of 320, it should be there.

02 14 58 46 CDR Thank you.

02 15 06 13 CDR Houston, Apollo 8.

02 15 06 15 CC Go ahead.

02 15 06 20 CDR Roger. Bill would like to ask the doctor for permission to take a Seconal.

02 15 06 25 CC Okay. Stand by.

02 15 08 06 LMP Houston, this is Apollo 8. Did you call? We lost track for a minute.

02 15 08 10 CC Okay, Apollo 8. You're cleared to go ahead with that pill. Take - Surgeon recommends a small one.

02 15 08 21 LMP Small one. Roger.

02 15 10 12 CC Apollo 8, Houston. If you can, we'd like to have you stir up the oxygen cryo.

02 15 10 19 CDR Okay, I'll do that right now. Just a moment, just the oxygen?

02 15 10 26 CC Okay. We want to get both the oxygen and hydrogen.

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02 15 10 29 CDR Just the oxygen, then?
02 15 10 30 CC No, sir; both the oxygen and the hydrogen.
02 15 10 33 CDR Okay. Start, starting wiht the hydrogen.
02 15 10 36 CC Thank you.

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02 15 20 01 CDR Okay. Houston, Apollo 8. We've cycled through
all of the cryo fans.

02 15 20 04 CC Okay. Thank you.

02 15 54 56 CDR Houston, Apollo 8. How do you read?

02 15 54 58 CC Loud and clear, Apollo 8.

02 15 55 03 CDR Okay. Thank you.

02 15 55 05 CC Roger. We had a momentary loss there.

02 15 55 07 CDR How is the tracking?

02 15 55 09 CC Looking great.

02 15 55 10 CDR How's the tracking data look, Ken?

02 15 55 13 CC Looking great.

02 15 55 16 CDR Roger.

02 16 38 09 LMP Houston, Apollo 8 with a radio check.

02 16 38 13 CC Apollo 8, Houston. Loud and clear.

02 16 38 19 LMP Good evening, Jerry.

02 16 38 21 CC Howdy. The Black Watch is watching.

02 16 38 30 LMP How do you read on this - how do you read on
this antenna?

02 16 38 34 CC Loud and clear on that one, Bill.

02 16 38 39 LMP That's great. Roger.

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02 16 51 43 CDR Houston, Apollo 8. Do you read on OMNI 3?
02 16 51 48 CC Apollo 8, Houston. Reading you loud with some background noise.
02 16 51 57 CDR Roger. You are loud and clear.
02 17 24 01 CC Apollo 8, Houston. COMM check.
02 17 24 07 CMP Roger, Houston. This is Apollo 8. Loud and clear. How me?
02 17 24 11 CC Roger. Loud and clear, Jim.
02 17 54 24 CC Apollo 8, Houston with a preliminary LOI 1 PAD. Over.
02 17 54 49 CC Apollo 8, Houston. Over.
02 17 55 57 CMP This is 8. Go ahead, Houston.
02 17 55 59 CC Apollo 8, Houston. This is a preliminary LOI 1 PAD. Over.
02 17 56 08 CMP Roger. Standby one.
02 17 56 10 CC Roger. Standing by.
02 17 57 06 CMP Houston, Apollo 8. Ready to copy.
02 17 57 10 CC Apollo 8, this is Houston. Roger. LOI 1 SPS/G&N: .62844, minus 161, plus 129 06908 1841. Copy?
02 17 57 52 CMP 8 is copying.
02 17 57 55 CC Roger, 8. Minus 29837, plus 02390, plus 00994 000 200 0501693, plus 00600 29949 402 29782. Copy?
02 17 58 02 CMP 8 is copying.

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02 17 58 15 CC Roger, 8. 010689260 Persei zeta, down 048, left 05. The remainder is not applicable. Sirius, Rigel, set of stars for GDC align, 129 155 010, negative ullage. We'll pass the horizon window data later. Over.

02 17 59 15 CMP Roger. Preliminary LOI 1 PAD as follows: SPS/G&N; 62844, minus 161, plus 129. Are you copying?

02 17 59 30 CC Roger. Copying.

02 17 59 35 CMP 069 08 1841, minus 29837, plus 02390, plus 00994 000 200 005 01693, plus 00600 29949 402 29782 01 0689 260, Persei zeta, down 048, left 05. The remainder not applicable. Sirius, Rigel, 129 155 010. No ullage. We'll pass up the remainder up later.

02 18 00 31 CC Roger, Jim. One question - we talked about a P40 gimbal check. Would you like to do that during this maneuver to LOI 1 attitude, or would you rather hold that off until a little closer to LOI? Over.

02 18 00 57 CMP Let me check on that. Wait one, Houston.

02 18 01 01 CC Roger. Standing by.

02 18 02 39 CMP Houston, Apollo 8.

02 18 02 40 CC Apollo 8, Houston. Go.

02 18 02 47 CMP Roger. We could make this gimbal check as a maneuver to the LOI attitude.

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02 18 02 53 CC Roger.

02 18 03 00 CMP I understand that you'll load us up with the
LOI 1 PAD and we'll run through P40 as far as
the gimbal check.

02 18 03 08 CC Roger. That's what we heard you were going
to do on it. Are you going to run both the
manual gimbals as well as the automatic? Over.

02 18 03 25 CMP Roger.

02 18 18 42 CC Apollo 8, Houston. Standing by to monitor
P52. Over.

02 18 18 51 CMP Roger.

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02 18 42 01 CDR Houston, how do you read? Apollo 8.

02 18 42 03 CC Apollo 8, this is Houston. Loud and clear.

02 18 42 11 CDR Okay, Jerry. At 67, we are going over to the LOI 1 attitude, do a sextant star check, and then we will have to go back to PTC. I want to know if you want us to go back to the same attitudes we are at now?

02 18 42 24 CC Apollo 8, Houston. That is affirmative, Frank. We are getting ready to ask you to do an erasable dump, VERB 47. We are getting up to get ready for it now, and we will call you as soon as we are ready to copy.

02 18 42 41 CDR Understand. VERB 47 when you call.

02 18 42 45 CC Negative; VERB 74.

02 18 42 50 CDR Okay. VERB 74.

02 18 43 43 CC Apollo 8, this is Houston. We are setting up for the dump now. It will take about 3 minutes and 20 seconds once we start the dump. Over.

02 18 43 54 CDR Understand.

02 18 47 09 CDR Houston, Apollo 8.

02 18 47 12 CC Apollo 8, Houston. Go.

02 18 47 17 CDR Roger. Can you point out the position of this Zeta Persei to us a little better? We don't have it marked on our charts. We have got Mirfak, and we know Algol, but which one is Zeta Persei?

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02 18 47 30 CC Roger, Frank. Persei Zeta is just about exactly between Aldebaran and Mirfak.

02 18 48 40 CC Apollo 8, this is Houston. We are ready for your CMC erasable dump. Key VERB 74 ENTER. Over.

02 18 48 51 CDR Roger.

02 18 49 02 CMP VERB 74 ENTER.

02 18 49 06 CDR Did you get it?

02 18 49 26 CDR Houston, Apollo 8. Are you getting the dump?

02 18 49 29 CC Apollo 8, this is Houston. Indications are that we are getting it; we are checking. You will have to leave the computer alone for 3 minutes and 20 seconds. Over.

02 18 49 39 CDR Roger. We are.

02 18 49 49 CC Apollo 8, Houston. We are getting your dump low bit rate through Honeysuckle.

02 18 49 56 CDR Roger.

02 18 50 05 CC Apollo 8, Houston. Persei Zeta is a third magnitude star same as Enif. Over.

02 18 50 15 CDR Same magnitude as Enif.

02 18 26 59 CMP Roger. Houston, Apollo 8. P52 complete.

02 18 27 05 CC Apollo 8, Houston. Roger. Copy.

02 18 50 17 CC Affirmative.

02 18 51 14 CDR Jerry, when are you going to send us the TEI 1 and the rest of that block data?

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02 18 51 31 CC Apollo 8, Houston. PC plus 2 does not need an update. We'll have your TEI 1 and 2 in about 10 minutes. Over.

02 18 51 41 CDR Roger.

02 18 53 53 CC Apollo 8, Houston.

02 18 53 58 CDR Go ahead, Houston. Apollo 8.

02 18 54 00 CC Apollo 8, Houston. The dump is complete; you can have your computer back. The reason for the dump was to investigate further the P52 anomaly you had about 4 hours ago. We will try to have some words for you in about 20 or 30 minutes. Over.

02 18 54 18 CDR You mean when it wouldn't come up with the proper star? *Ue*

02 18 54 22 CC Affirmative.

02 18 54 26 CMP Okay.

02 18 54 30 CDR We are going to go ahead and start our maneuver to LOI 1 attitude.

02 18 54 34 CC Roger. Standing by to monitor.

02 18 54 42 CMP Houston, Apollo 8.

02 18 54 45 CC Houston. Go ahead.

02 18 54 50 CMP During the flight, I noticed that the AUTO optics wouldn't drive to the star pick-a-pair selected. Example, it picked Alpheratz at one time, wouldn't drive there, drove to a spot that had no star; and I went back and reselected the program and came back, and it worked okay.

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02 18 55 11 CC Roger, Jim. Copy.

02 18 55 26 CC Jim, is this anomaly you are talking about - was that 4 hours ago when we did the REFSMMAT align?

02 18 55 37 CMP This happened, I think, yesterday. When we - we were doing a regular REFSMMAT alignment. Alpheratz was the first star selected, and it didn't drive to Alpheratz; and I ran and reselected the program again, and it worked okay.

02 18 55 54 CC Okay, Jim. Thank you.

02 18 55 56 CDR Jerry, this is Apollo 8.

02 18 55 57 CC Go ahead.

O 02 18 55 59 CDR Apollo 8 here, Jerry.

02 18 56 01 CC Go ahead, Frank.

02 18 56 06 CDR Our PAD here is - Roger. Our PAD here hasn't been correct. I understand the gimbal angles for LOI 1 are roll 0, pitch 200, and yaw 5. Is that correct?

02 18 56 17 CC Affirmative, Frank. That is correct.

02 18 56 22 CDR Thank you.

02 18 57 39 CC Apollo 8, Houston with a map update. Over.

02 18 57 45 CDR Okay. Stand by a minute.

02 18 57 48 CC Roger.

02 18 58 04 CDR Go ahead.

02 18 58 07 CC Apollo 8, this is Houston. Map update REV 1, slash 2: 685804 690505 693141 701448. Copy?

02 18 58 41 CDR Copy.

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02 18 58 43 CC 705636 710059 711042 713940 722317. Copy?

02 18 59 21 CDR Copy.

02 18 59 23 CC Roger. Remarks: Charlie Poppa 1, 711457,
Charlie Poppa 2, 712832, Charlie Poppa 3, 714726,
Bravo 1, 720942. Over.

02 19 00 06 CMP Roger. Stand by. I'll get the antenna.

02 19 00 25 CMP Map update as follows, Houston: 685804 690505
693141 701448 705636 710059 711042 713940 722317;
Charlie Poppa 1, 711457, Charlie Poppa 2, 712832,
Charlie Poppa 3, 714726, Bravo 1, 720942.

02 19 01 25 CC Apollo 8, this is Houston. Readback is correct.

02 19 04 26 CC Apollo 8, Houston. Try to lock up an OMNI for
us. Over.

02 19 04 33 CMP Roger.

02 19 04 59 CDR How do you read now, Houston?

02 19 05 03 CC Apollo 8, Houston. Reading you loud and clear.
No TM.

02 19 05 11 CDR Understand. No TM.

02 19 06 33 CC Apollo 8, Houston.

02 19 06 39 CDR Go ahead, Houston. Apollo 8.

02 19 06 41 CC Roger, Frank. How far are you from your gimbal
drive check? Over.

02 19 06 50 CDR We're just maneuvering to the attitude now.

02 19 06 55 CC Roger, Frank. Can you lock up the high gain at
that attitude? We have a telemetry problem. Over.

02 19 07 04 CDR We'll try to. I don't know if we can or not; have
to wait until we get there.

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02 19 07 09 CC Roger. Standing by.

02 19 11 25 CDR Houston, this is Apollo 8. We cannot get the high gain at the burn attitude.

02 19 11 31 CC Roger, Frank. Thanks anyway.

02 19 12 07 CC Apollo 8, this is Houston. We have a handover from Honeysuckle to Guam in about two minutes.

02 19 12 16 CDR Thank you.

02 19 13 29 CC Apollo 8, Houston.

02 19 13 47 CC Apollo 8, Houston.

02 19 14 22 CC Apollo 8, Houston. Over.

02 19 15 17 CC Apollo 8, Houston. Over.

02 19 16 08 CC Apollo 8, Houston.

02 19 16 58 CDR Houston, Apollo 8.

02 19 17 00 CC Apollo 8, Houston. Loud and clear. How me?

02 19 17 10 CDR Houston, Apollo 8.

02 19 17 13 CC Apollo 8, this is Houston. Loud and clear. How me? Over.

02 19 17 41 CC Apollo 8, Houston. Over.

02 19 17 54 CC Apollo 8, Houston. Over.

02 19 18 00 CDR Go ahead, Houston. Apollo 8 here.

02 19 18 02 CC Apollo 8, this is Houston. I have TEI 1 and TEI 2 PAD's. We still have no telemetry; expect to get it soon. Over.

02 19 18 14 CDR Roger. You think it's a ground problem?

02 19 18 19 CC Roger. It's a ground problem; we just got it back.

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02 19 18 57 CDR Houston, Apollo 8. Go ahead with your data.

02 19 19 05 CC Apollo 8, this is Houston with an LOI 1 PAD.
Over.

02 19 19 14 CDR Roger. Understand. LOI 1.

02 19 19 17 CC That is affirmative, LOI 1, SPS/G&N: 62844 1,
correction, minus 161, plus 129 069 08 1952,
minus 29840, plus 02390, plus 01053. Copy?

02 19 20 58 CC Apollo 8, Houston. Over.

02 19 21 02 CDR Roger. We broke lock; did not get the DELTA-V_X.

02 19 21 08 CC Apollo 8, Houston. Roger. Beginning with
DELTA-V_X: minus 29840, plus 02390, plus 01053
000 200 005 01693, plus 00600 29954 402 29788.
Copy?

02 19 22 19 CDR Roger.

02 19 22 21 CC Roger. 01 0688 259, Persei Zeta, down 048,
left 05. The remainder not applicable. Sirius,
Rigel, 129 155 010; negative ullage. Horizon
window, ignition minus 2 minutes, 40 degrees
unlit, ignition 27 degrees unlit. Over.

02 19 23 35 CDR Roger. LOI 1, SPS/G&N: 62844 minus 161, plus
129 069 08 1952, minus 29840, plus 02390, plus
01053 000 200 005 01693, plus 00600 29954 402
29788 01 0688 259, Persei Zeta, down 048, left 05;
Sirius, Rigel, 129 155 010: no ullage, horizon
2 minutes 40 degrees unlit, ignition 27 degrees
unlit.

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02 19 24 58 CC Apollo 8, Houston. Readback is correct. Ready to copy TEI 1. Over.

02 19 25 05 CDR Roger, Houston.

02 19 25 14 CC Apollo 8, this is Houston. Are you waiting for us before you start your gimbal check? Over.

02 19 25 23 CDR We can start the gimbals check right here.

02 19 25 27 CC Roger. You want to copy while you're doing it or stand by on TEI 1?

02 19 25 35 CDR Stand by for a minute.

02 19 25 37 CC Roger. Standing by.

02 19 26 48 CC Apollo 8, this is Houston. Shifting command back to Honeysuckle. Over.

02 19 26 55 CDR Roger.

02 19 34 46 CC Apollo 8, Houston. How did that gimbal drive check go?

02 19 34 52 CDR It went fine.

02 19 34 53 CC Roger, Frank. We're ready with the TEI 1 and 2 maneuver PAD's. We've also got two state vectors and a target load to uplink and load if you'll configure for it. Over.

02 19 35 07 CDR Roger. We're trying to get the high gain now. We're maneuvering to PTC attitude.

02 19 35 15 CC Roger.

02 19 35 24 CMP Go ahead with your TEI PAD's.

02 19 35 29 CC Apollo 8, this is Houston. TEI 1, SPS/G&N: 462, correction, 46728, minus 053, plus 121 071 25 0473, plus 37746, minus 03299, plus 00844. Copy?

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02 19 36 33 CMP We're copying.

02 19 36 35 CC Roger. 179 346 357, not applicable, plus 00176
37900 336 37705 42 1279 309. Copy?

02 19 37 26 CMP Copying.

02 19 37 28 CC Roger. NA, NA, NA, plus 1350, minus 16500
13050 36389 1221 045; Sirius, Rigel, 129 155
010, ullage two-jet, 20 seconds jet Bravo Delta,
horizon window X-axis on horizon at ignition
minus 3 minutes; assumes LOI 1. Over.

02 19 38 59 CMP Houston, Apollo 8. TEI 1 as follows: SPS/G&N:
46728, minus 053, plus 121 071 25 0473. Copy?

02 19 39 22 CC Roger. Copy.

02 19 39 26 CMP Plus 37746, minus 03299, plus 00844 179 346 357,
not applicable, plus 00176 37900 336 37705 42
1279 309, not applicable three times, plus 1350,
minus 16500 13050 36389 1221045; Sirius, Rigel,
129 155 010, ullage two jets, 20 seconds,
quads B and D, horizon window X-axis on horizon
at TIG minus 3, assumes IOI 1.

02 19 40 36 CC Apollo 8, Houston. Roger. Correct.

02 19 41 05 CMP Standing by for TEI 2, if you have it.

02 19 41 15 CMP Apollo 8, Houston. Will be ready with the TEI 2
in about 1 minute.

02 19 41 19 CMP Roger.

02 19 42 10 CC Apollo 8, Houston with a TEI 2 maneuver PAD.

02 19 42 18 CMP Roger. Ready to copy.

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02 19 42 21 CC Roger. TEI 2 SPS/G&N: 46728, minus 053, plus 121. Copy?

02 19 42 47 CMP Roger. Copy.

02 19 42 49 CC Roger. 073 21 3024, plus 28466, minus 00350, plus 02406 180 022 002, not applicable, plus 00188. Copy?

02 19 43 46 CMP Roger. Copy.

02 19 43 48 CC Roger. 28570 250 28401 42 0641 296, not applicable three times, plus 0920, minus 16500 12953 36175 146 32 16. Copy?

02 19 45 01 CMP Copy. Looks like you left out a digit ...

02 19 45 09 CC Apollo 8, Houston. Request you switch your OMNI. It's getting pretty garbled now.

02 19 45 18 CMP Roger. Stand by.

02 19 45 30 CMP Houston, this is Apollo 8. I copied. I question the latitude and the range to go. It appears that you gave me one too few digits in both cases.

02 19 45 43 CC Roger. I repeat, latitude plus 0920, minus 16500 12953 36175 146 32 16. Copy?

02 19 46 20 CMP I copied.

02 19 46 21 CC Roger. Your GDC align is no change, ullage no change, horizon on the minus 2-degree line at ignition minus 3 minutes, assumes LOI 1. Over.

02 19 46 58 CMP Roger. TEI 2 maneuver PAD, SPS/G&N: 46728, minus 053, plus 121 073 21 3024 plus 28466 minus 00350. I did not get the 502406 for a DELTA-V₂. 180 022 002,

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not applicable, plus 00188 28570 250 28401 42
0641 296, not applicable three times, plus 0920
minus 16500 12953 36175 1463216. No change in
the GDC align stars, no change in ullage, a rise
on the minus 2-degree line at TIG minus 3, assumes
LOI 1.

02 19 48 28 CC Apollo 8, this is Houston. Roger. Correct. I
repeat DELTA-V_Z plus 02406. Over.

02 19 48 42 CMP Roger. Plus 02406.

02 19 48 46 CC Roger.

02 19 48 57 CC Apollo 8, Houston. If you can go OO and ACCEPT,
we'll start the NAV loads.

02 19 49 05 CMP Roger.

02 19 49 12 LMP Go ahead.

02 19 51 20 CC Apollo 8, Houston. The CM vector is in; working
on the LM now. Over.

02 19 51 28 CDR Roger.

02 19 52 17 CC Apollo 8, Houston. We'd like a cryo fan cycle
when you can. Over.

02 19 52 24 CDR Roger. We're starting that now.

02 19 52 26 CC Roger.

02 19 53 17 CC Apollo 8, Houston. The LM vector is loaded.
Target load going in now.

02 19 53 23 CDR Roger.

02 19 55 20 CC Apollo 8, Houston.

02 19 55 25 CMP Go ahead, Houston.

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02 19 55 27 CC Apollo 8, Houston. The update is complete. You can have the computer, TLM to BLOCK. Be advised the erasable dump checks out okay.

02 19 55 41 CMP Roger. Thank you. We have the computer; we're in BLOCK.

02 19 55 45 CC Roger.

02 19 55 50 CC Apollo 8, this is Houston. We'd like to make at this time a down-voice backup COMM check. Set the S-band AUX tape to DOWN-VOICE BACKUP, TLM inputs PCM, LOW. Over.

02 19 56 10 LMP Roger, Houston. And we'd like to have a check of our DSE on low bit rate for voicing.

02 19 56 19 CC Roger. Understand you want the DSE check on low bit rate for voice.

02 19 56 30 CDR That's affirmative, and we'll give it about 10 minutes now or about 5 minutes, then you can check it out.

02 19 56 37 CC Roger.

02 19 57 55 CMP Houston, Apollo 8.

02 19 57 57 CC Apollo 8, Houston. Go.

02 19 58 01 CMP As a matter of interest, we have as yet to see the moon.

02 19 58 07 CC Roger.

02 19 58 21 CC Apollo 8, Houston. What else are you seeing?

02 19 58 31 LMP Nothing. It's like being on the inside of a submarine.

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02 19 58 36 CC Roger.

02 19 59 17 CDR Houston, we just did a PROGRAM 21, and we show
a pericynthian of plus 74.9 miles on the state
vector you just uploaded.

02 19 59 24 CC Roger. Plus 74.9.

02 19 59 32 CDR Roger.

02 19 59 50 CC Apollo 8, this is Houston. Reading your down-
voice backup loud and clear. Request you keep
those switches where they are for the remainder
of the pass. Over.

02 20 00 02 CDR Roger. And we're rewinding the tape recorder for
a dump for a DSE voice check.

02 20 00 10 CC Roger, 8.

02 20 00 15 CDR It's rewound; are you ready to dump?

02 20 00 23 CDR We'd like to go to S-band AUX tape briefly so you
can dump the tape while we're on the high gain.
We've only got about 30 seconds worth.

02 20 00 44 CC Apollo 8, Houston. Roger. We'll do that from
the ground. Over.

02 20 00 48 CDR Roger. I'll switch configuration - -

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02 20 00 44 CC Apollo 8, Houston. Roger. We'll do that from the ground. Over.

02 20 00 54 CDR Roger. Switch configuration is down-voice backup and stop. You got it.

02 20 00 59 CC Roger. We will dump it.

02 20 01 15 CDR You won't need to dump more than a minute's worth.

02 20 01 19 CC Roger.

02 20 01 49 CC Apollo 8, Houston. Over.

02 20 02 03 CC Apollo 8, Houston.

02 20 02 04 CDR Roger. This is Apollo 8.

02 20 02 06 CC Roger. That pericynthian you read out is for ignition. We read that as 75 miles; your true pericynthian is 64 miles at 69:10:35. Over.

02 20 02 25 CDR Roger.

02 20 03 03 CC Apollo 8, this is Houston with an addition to your TEI 1 maneuver PAD. Over.

02 20 03 12 CDR Stand by a minute.

02 20 03 25 CDR Go ahead.

02 20 03 27 CC Roger. Under remarks, add the following:
"requires minus MA procedure". Over.

02 20 03 43 CDR Requires minus MA procedure.

02 20 03 47 CC Affirmative, 8.

02 20 04 07 CC Apollo 8, this is Houston. At 68:04, you are GO for LOI.

02 20 04 17 CDR Okay. Apollo 8 is GO.